DAN RIVER COAL ASH SPILL

Senate Agriculture, Conservation and Natural Resources Committee

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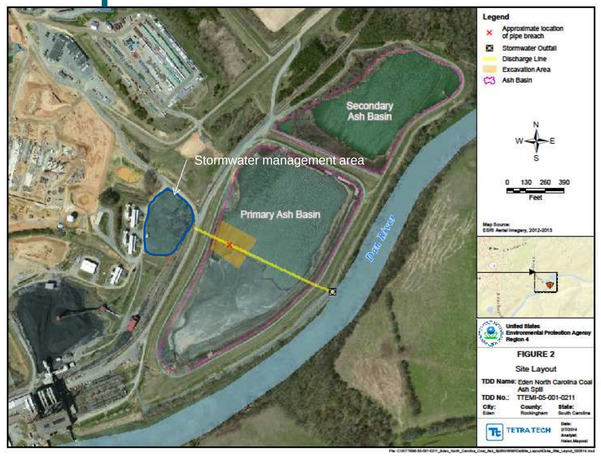
DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Site Location:

Site Map:


Secondary Ash Basin
Stormwater management area
Primary Ash Basin
Dan River
Legend
Approximate location of pipe breach
Stormwater Outfall
Discharge Line
Excavation Area
Ash Basin
N
W
E
S
0 130 260 390
Feet
Map Source:
ESRI Aerial Imagery, 2012-2013
United States Environmental Protection Agency Region 4
FIGURE 2
Site Layout
TDD Name: Eden North Carolina Coal Ash Spill
TDD No.: TTEMI-05-001-0211
City: Eden
County: Rockingham
State: South Carolina
TETRA TECH

What is Coal Ash:

- Residue generated from burning coal; generally stored at power plants or placed in landfills.
- Ash has a large variety of constituents - mostly consists of silicon oxide, iron oxide, and aluminum oxide, with trace amounts of arsenic, selenium, mercury, boron, thallium, cadmium, chlorides, bromine, magnesium, chromium, copper, nickel, and other metals.

Incident:

- Sunday, 2/2/14: Duke Energy identified a coal ash and contaminated water discharge from a broken stormwater pipe into the Dan River near Eden, NC. The pipe ran under a coal ash containment basin.
- Duke notified NC Emergency and Environmental agencies, and City of Danville.
- VADEQ notified by VA Emergency Operations Center late Sunday; in turn Danville, So. Boston and Clarksville water utilities were notified.
- Drinking water intake monitoring began immediately, along with surface water and sediment monitoring in both VA and NC.
- VA and NC requested technical assistance from EPA; On Scene Coordinators were on site by Tuesday, 2/4.

Incident (cont.):

- A Unified Command has been established that includes the EPA, NCDENR, VADEQ, the U.S. Fish and Wildlife Service and Duke Energy.
- EPA is providing oversight of the emergency response and technical expertise to effectively address the release.
- Revised estimate is 30,000 – 39,000 tons of coal ash discharged to river.

Emergency Response Actions:

- Duke made several unsuccessful attempts to plug stormwater pipe; interim measures put in place at outfall to capture and contain discharge and pump back to a secondary ash basin.
- Saturday, 2/8 - Duke successfully installed grout plug in the last 27 feet of damaged storm water pipe; effectively stopped further discharge.

Emergency Response Actions (cont):

- Crews have begun recovering a large coal ash deposit from immediately below the discharge point

Emergency Response Actions (cont):

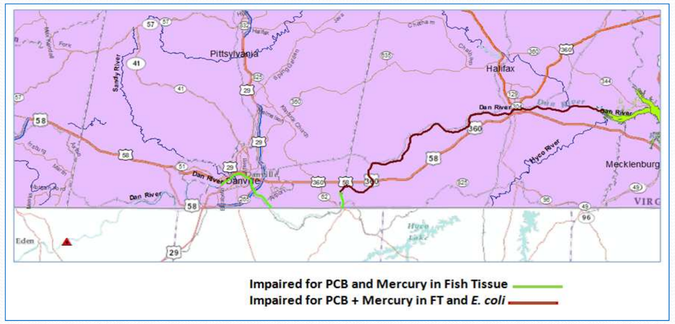
- After initial pipe break was plugged, a second 36” stormwater pipe under the ash pond was investigated due to discharge with elevated arsenic levels; possible failure was also a concern.
- Duke ordered to immediately stop this discharge; by Friday, 2/21, a concrete plug was successfully installed.
- Environmental impacts from this second discharge will be considered along with the initial investigation.

Environmental Assessments:

- Drinking water safety - Danville, South Boston and Clarksville.
- After treatment, no drinking water standards were violated.
- 2/11 - VADEQ staff collected water and sediment samples from the VA/NC line west of Danville to a point halfway between Danville and So. Boston, a distance of about 46 river miles.
- Samples analyzed for metals levels. Water samples did not exceed VA Water Quality Standards; no sediment levels were above freshwater screening values.
- Collection of water and sediment samples continues.
- VADEQ collected fish samples last week west of Danville. Metals levels analysis will be complete within 2 weeks.
- As soon as possible, VDH will post additional signage along the Dan River advising limited contact with coal ash; adverse health effects not likely.

Fish Consumption Advisory:

- VDH has an existing fish consumption advisory in place for the Dan River due to PCBs and mercury from historical activities not related to the recent coal ash spill.



Future Plans:

- Duke Energy working to completely abandon both stormwater pipes under coal ash pond.
- Also testing options for coal ash dredging in the immediate area of the spill.
- VADEQ summarizing all existing water quality data for the area; will represent pre-spill, baseline conditions.
- Now focus on Long-Term Environmental Impact Assessment – Aquatic Life and Habitat:
  - Develop cooperative state/federal monitoring plan to assess chronic impacts to fish and any metals bioaccumulation.
  - Will likely require monitoring over several years to detect changes and trends.
  - Plans will also address any impacts to habitat, especially river bottom where sedimentation can adversely impact living resources.
  - Need for monitoring tailored to lakes/reservoirs will also be considered.

Future Plans (cont.):

- Enforcement action and civil damage claims being evaluated.
- Intend to hold Duke Energy fully accountable.
- DEQ issued “Declaration of Environmental Emergency”, which authorizes access to the VA Environmental Emergency Response Fund.

Assessment of Virginia's Impoundments:

- In Virginia, coal ash is managed and regulated both as a waste and a resource. Material can be beneficially reused or recycled, disposed of as a dry waste in nonhazardous industrial landfills, or impounded as wet waste.
- In 2013, US EPA concluded a review of the structural integrity of Virginia's coal ash impoundments. None of the units were found to have an unsatisfactory rating.
- EPA noted deficiencies needing to be addressed; all have been corrected except 2:
  - Corrections at one are scheduled to be completed next month.
  - Other will be closed by the end of the year.

Questions?